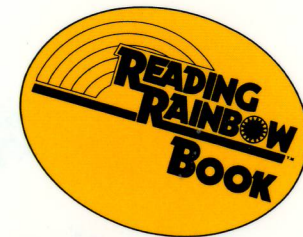


2
STAGE

GERMS MAKE ME SICK!



LET'S-READ-AND-FIND-OUT SCIENCE®



BY MELVIN BERGER • ILLUSTRATED BY MARYLIN HAFNER

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Where Does the Garbage Go?
What Is the World Made Of?

LET'S-READ-AND-FIND-OUT SCIENCE®

STAGE
2

GERMS MAKE ME SICK!

REVISED EDITION

BY MELVIN BERGER • ILLUSTRATED BY MARYLIN HAFNER



 HarperCollins Publishers

The paintings for this book were done in pen and ink and watercolor on Arches watercolor paper.

With special thanks to Melanie Marin, M.D., for her expert advice.

The *Let's-Read-and-Find-Out Science* book series was originated by Dr. Franklyn M. Branley, Astronomer Emeritus and former Chairman of the American Museum-Hayden Planetarium, and was formerly co-edited by him and Dr. Roma Gans, Professor Emeritus of Childhood Education, Teachers College, Columbia University. Text and illustrations for each of the books in the series are checked for accuracy by an expert in the relevant field. For a complete catalog of *Let's-Read-and-Find-Out Science* books, write to HarperCollins Children's Books, 10 East 53rd Street, New York, NY 10022.

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Revised Edition

GERMS MAKE ME SICK!





Hurry, or you will
be late for school!

Rise
and
Shine!



You wake up one morning. But you don't feel like getting out of bed. Your arms and legs ache. Your head hurts. You have a fever. And your throat is sore.

"I'm sick," you say. "I must have caught a germ."

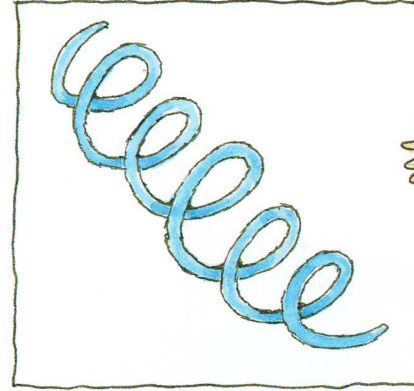
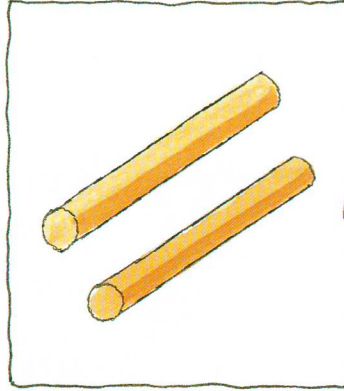
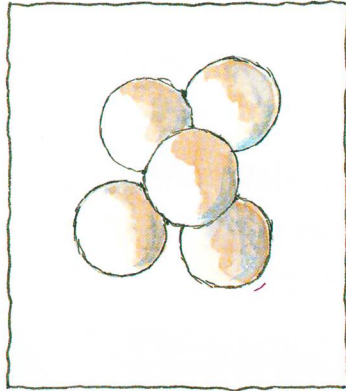
Everyone knows that germs can make you sick. But not everyone knows how.



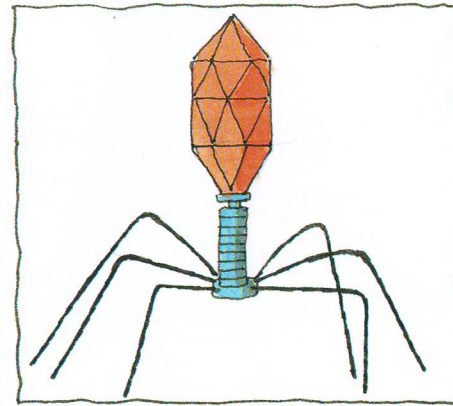
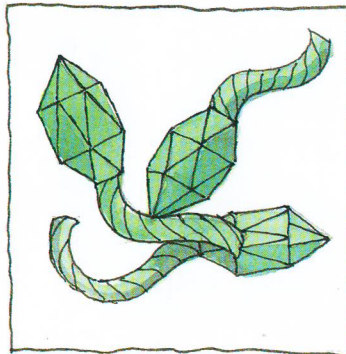
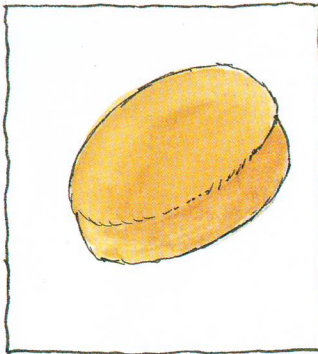
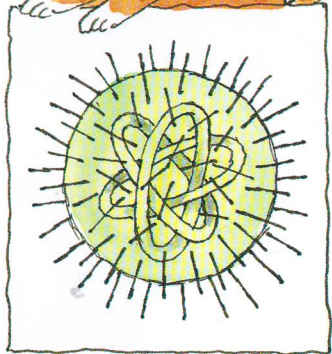
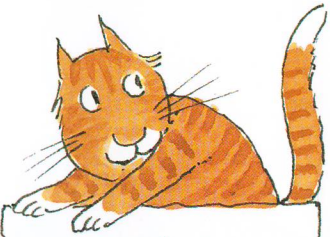
Germes are tiny living things. They are far too small to see with your eyes alone. In fact, a line of one thousand germs could fit across the top of a pencil!

There are many different kinds of germs. But the two that usually make you sick are bacteria and viruses.

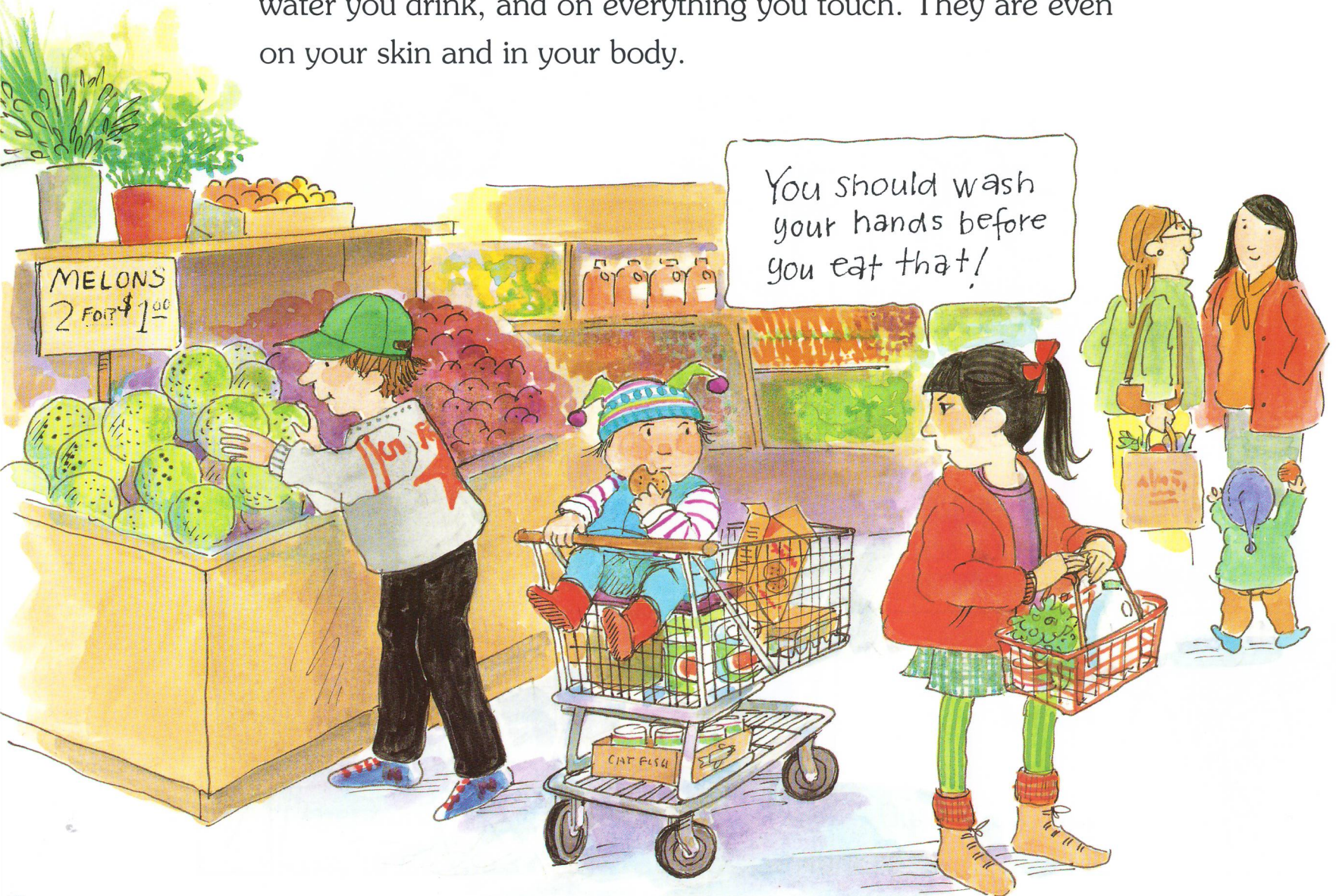
Under a microscope, some bacteria look like little round balls. Others are as straight as rods. Still others are twisted in spiral shapes.



Viruses are far tinier than bacteria. Some look like balls with spikes sticking out on all sides. Others look like loaves of bread or like tadpoles. There are even some that look like metal screws with spider legs.



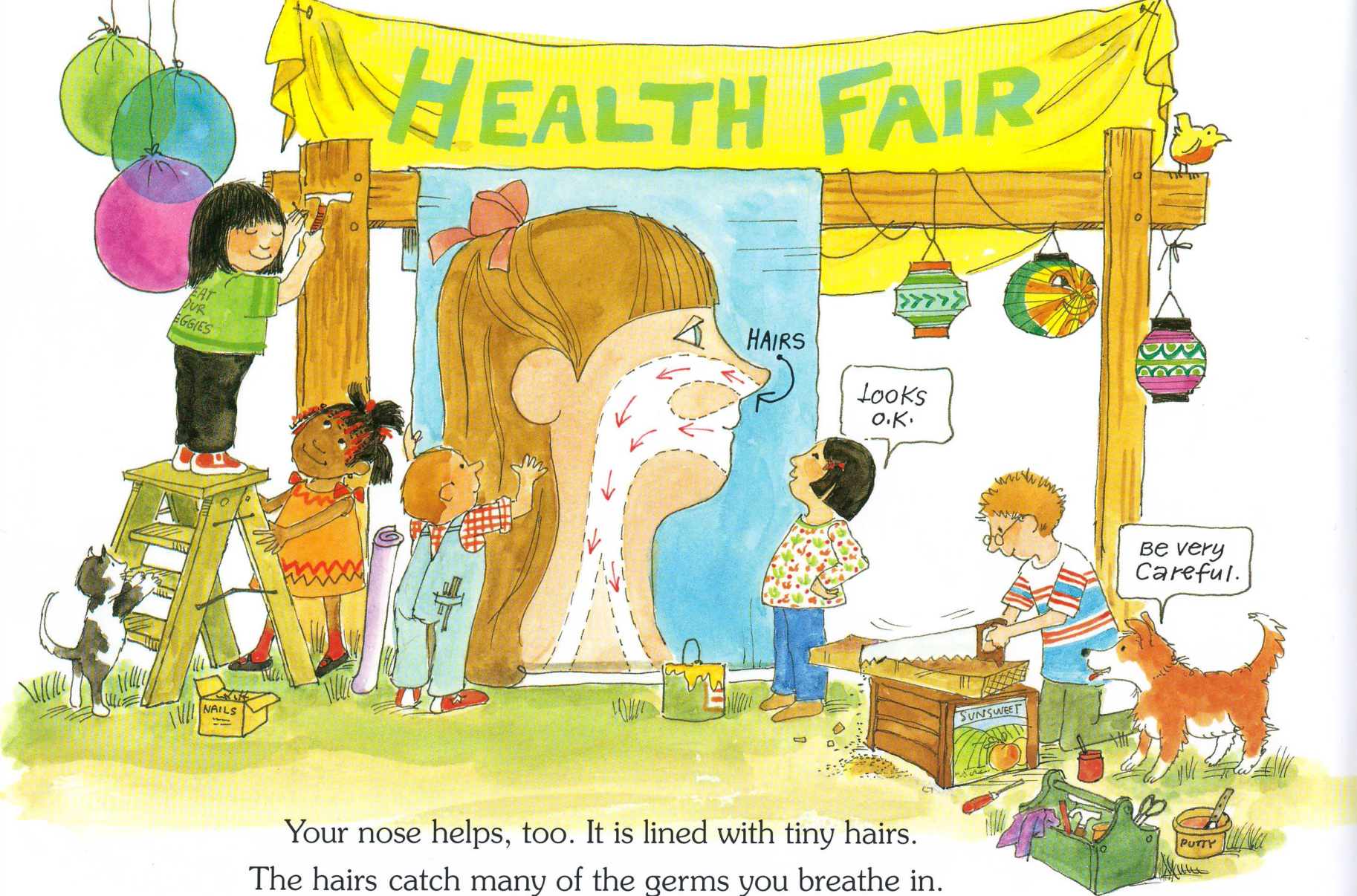
Germ, such as bacteria and viruses, are found everywhere. They are in the air you breathe, in the food you eat, in the water you drink, and on everything you touch. They are even on your skin and in your body.



Although germs are all around, they do not always make you sick. Many germs are not harmful. Also, your body keeps out harmful germs most of the time.

Your skin blocks the germs. As long as there are no cuts or scratches on your skin, germs can't get in.





Your nose helps, too. It is lined with tiny hairs.
The hairs catch many of the germs you breathe in.
They push them back out.

The inside of your mouth and throat is always wet. Germs
often get stuck there. They don't go any farther.



Yet some germs do slip in every once in a while.
Your friend has a cold. She sneezes. Germs fly out. You
breathe the air. Some of her germs may get into your lungs.



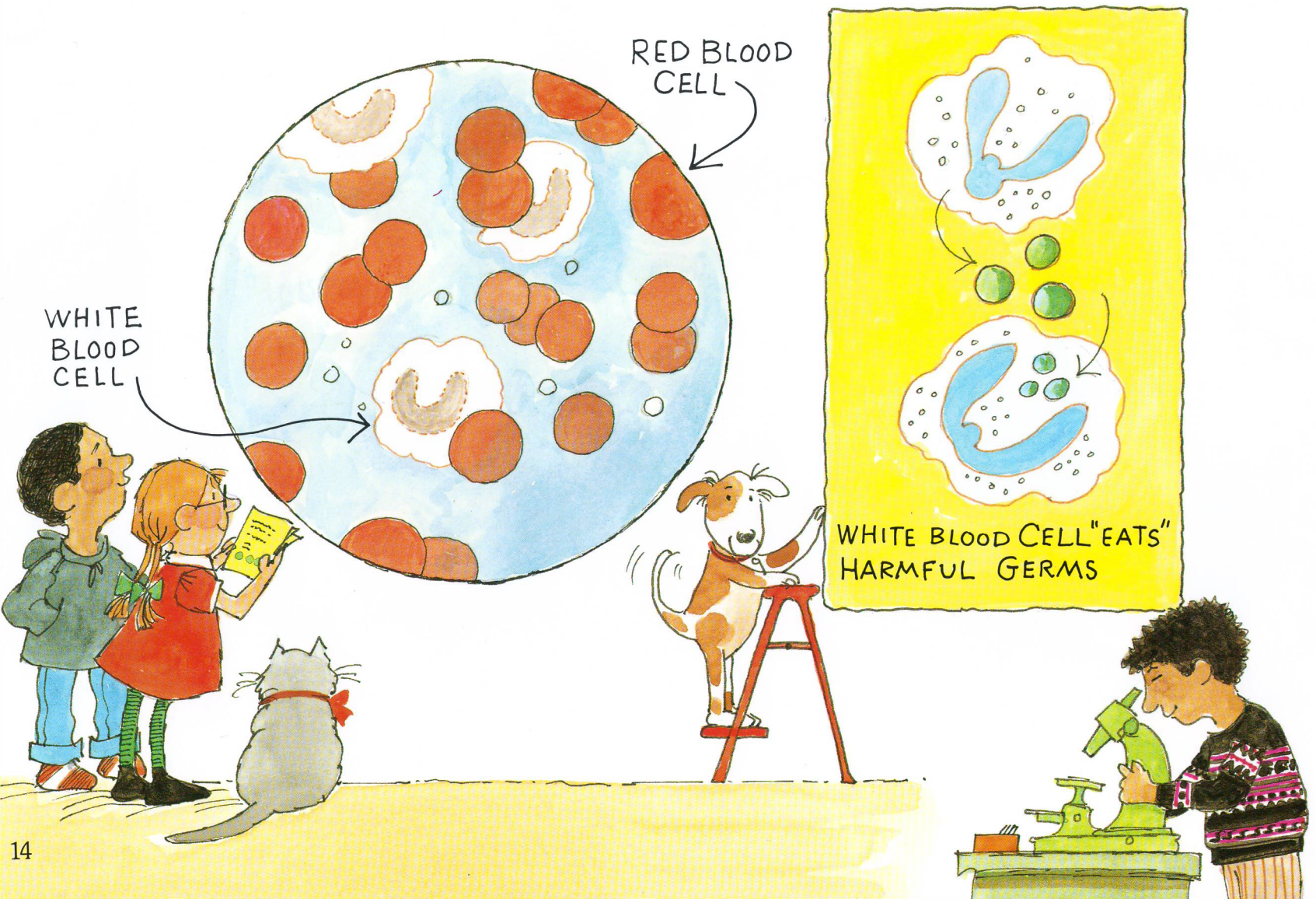
You take a sip of your cousin's soda. Her germs are on the straw. A few of the germs may get into your stomach.

You're riding a bike. You fall and scrape your knee. Germs from the ground may get under your skin.

But even when harmful bacteria and viruses get into your body, you don't always get sick. That is because your body has ways to fight germs.



The white cells in your blood go after any germs that sneak in. Usually, these cells kill the germs before they can do any harm.

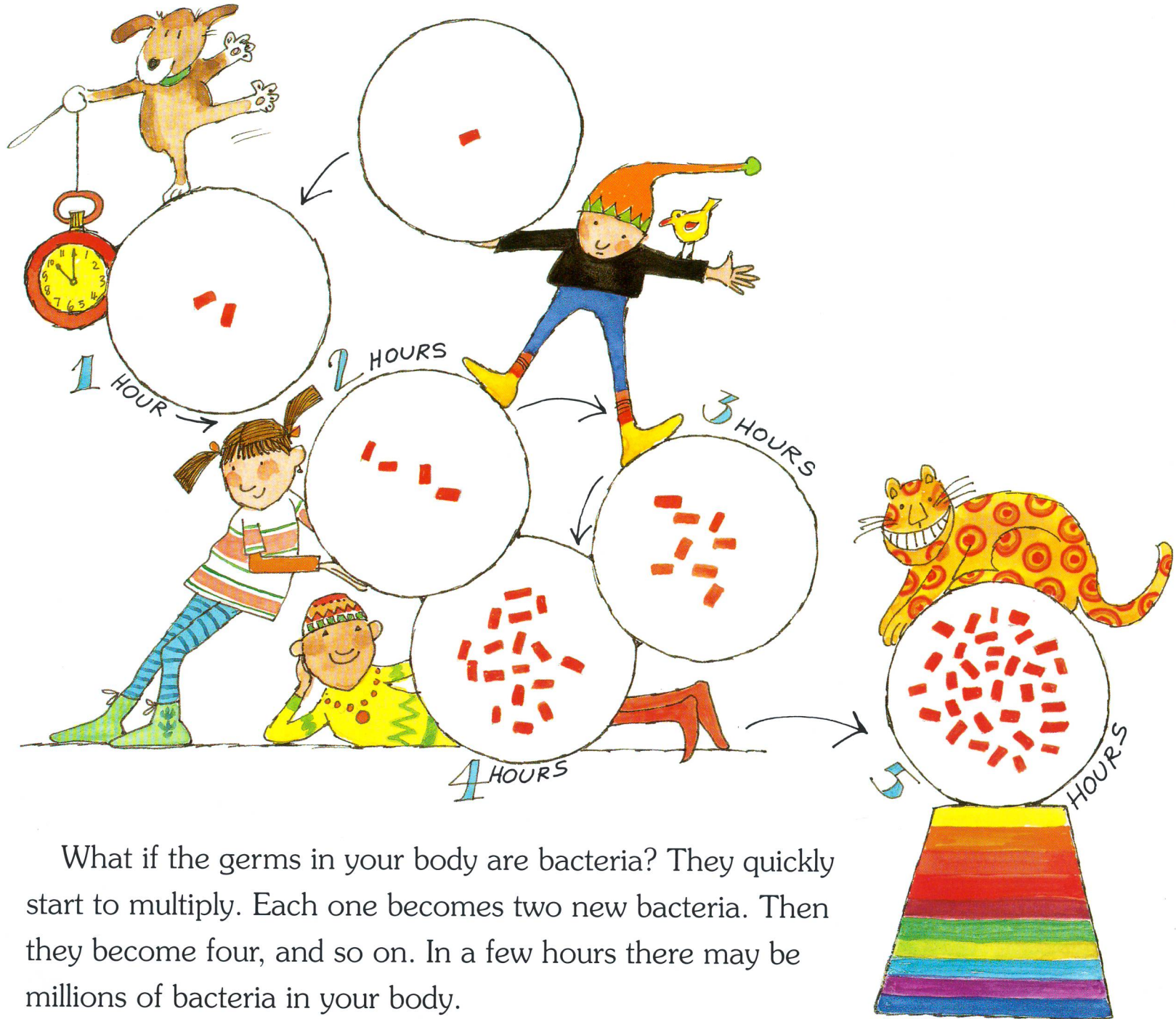


Antibodies
look
something
like this.



Your blood also has special proteins that attack germs.
They are called antibodies.

The white blood cells and antibodies don't always get rid of the germs, though. Some germs stay in the body and make you sick.



What if the germs in your body are bacteria? They quickly start to multiply. Each one becomes two new bacteria. Then they become four, and so on. In a few hours there may be millions of bacteria in your body.

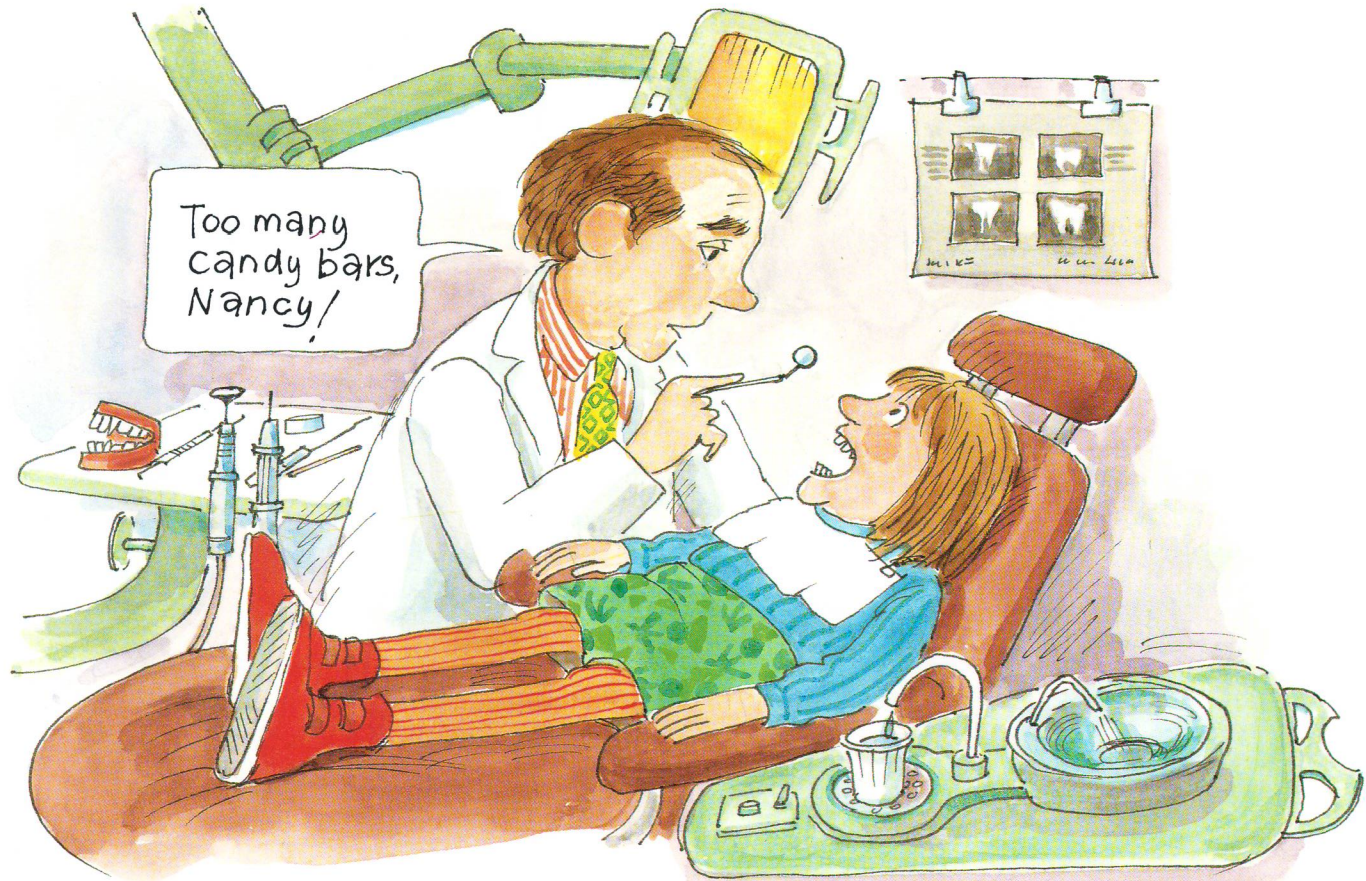


The bacteria give off waste products. Some of these wastes are poisons. The poisons can damage or kill the cells that make up your body. When enough cells are harmed, you feel sick.



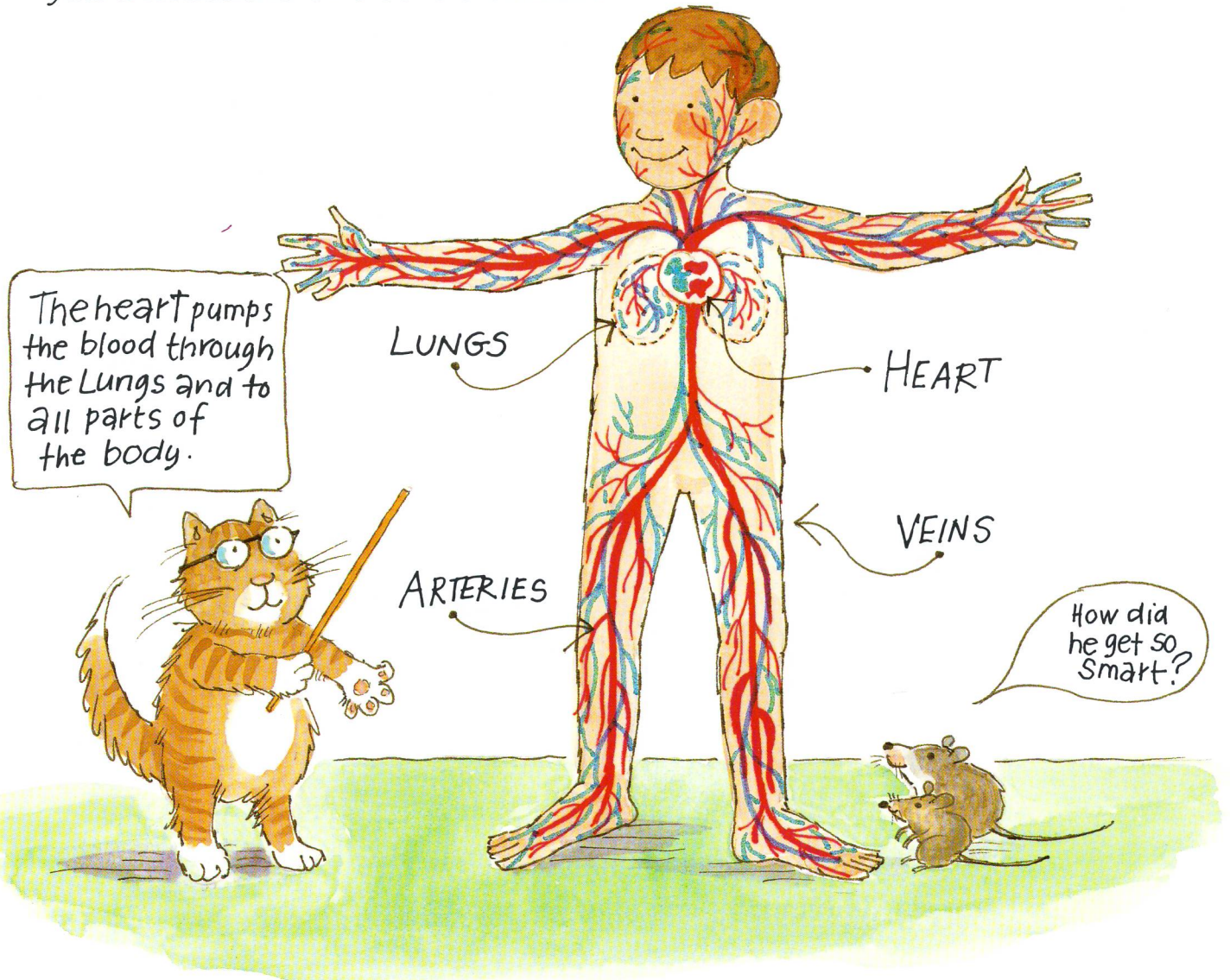
You may have pains and aches, run a fever, or break out in a rash. You may cough or sneeze or throw up. These signs tell you that cells are being damaged or killed in your body.

Some bacteria give off poisons that stay close to the bacteria. Bacteria in your mouth are like that. Their poison attacks only your teeth and causes cavities. It does not go to other places in your body.



Earaches and boils on the skin can also be caused by bacteria whose poisons stay in one place.

Other bacteria give off poisons that move around the body. One kind of bacteria lives in the lungs. But it gives off poisons that are carried around in the blood. These bacteria may give you a headache or a sore stomach.

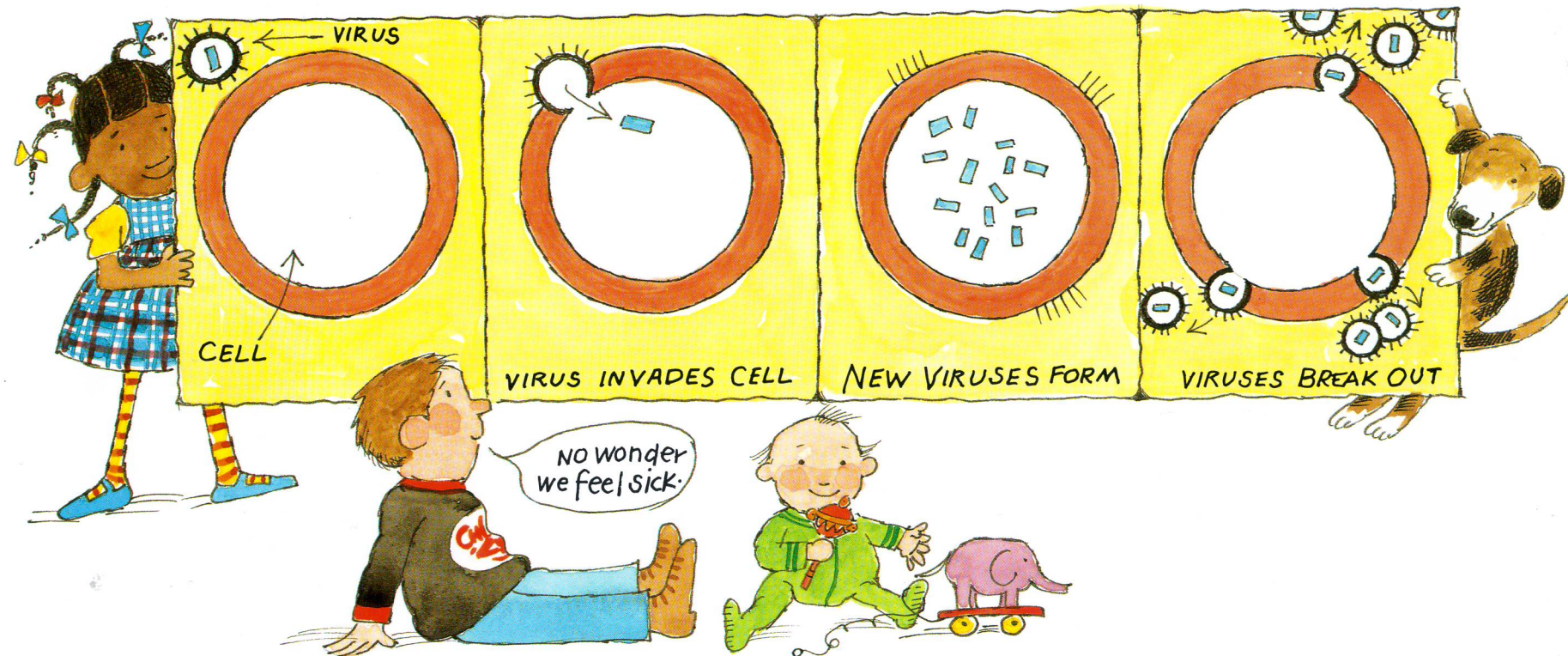




Still other bacteria have poisons in their outer coats. When they touch different cells, their poisons hurt or destroy them. As the cells die, you feel sick.

What if viruses get into your body? Viruses are different from bacteria. They don't give off poisons. Each virus forces its way into a body cell. It disappears inside. For a while, nothing seems to be happening. Then, suddenly, the viruses break out of the cell. Hundreds of new viruses tumble out.

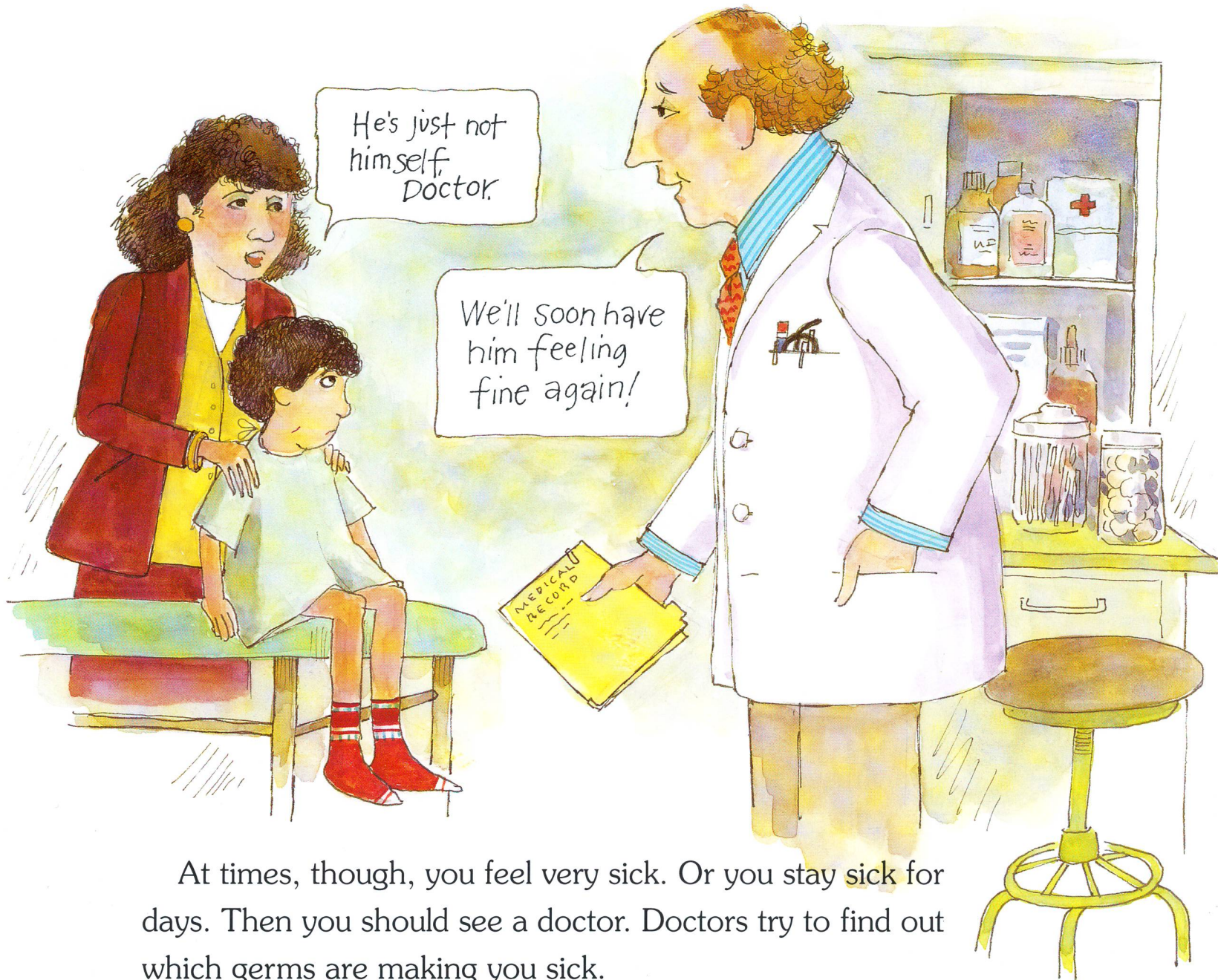
Each virus finds another cell and digs its way in. Then these cells pop open, and more viruses pour out. Soon there are millions of viruses in your body.





The viruses spread out. As they do, you feel worse and worse. Viruses bring you colds and the flu, measles, mumps, and chicken pox, and lots of other illnesses.

Though bacteria and viruses can make you sick, you usually begin to feel better after a day or two. Your body has beaten back the germs.



At times, though, you feel very sick. Or you stay sick for days. Then you should see a doctor. Doctors try to find out which germs are making you sick.

“What hurts?” they ask. “Let’s take a look.”



Perhaps they swab your throat with cotton. Then they send the cotton with the germs on it to a lab. Or they may take a few drops of blood from your fingertip or arm. That also goes to a lab to be tested.

Your doctor gets a report from the lab. It tells whether the germs are bacteria or viruses. If bacteria are making you sick, the doctor usually prescribes some drug. The drug will either kill the bacteria or stop them from growing.





Doctors do not yet have drugs to cure diseases caused by viruses. But they can give you shots to prevent some of these diseases.

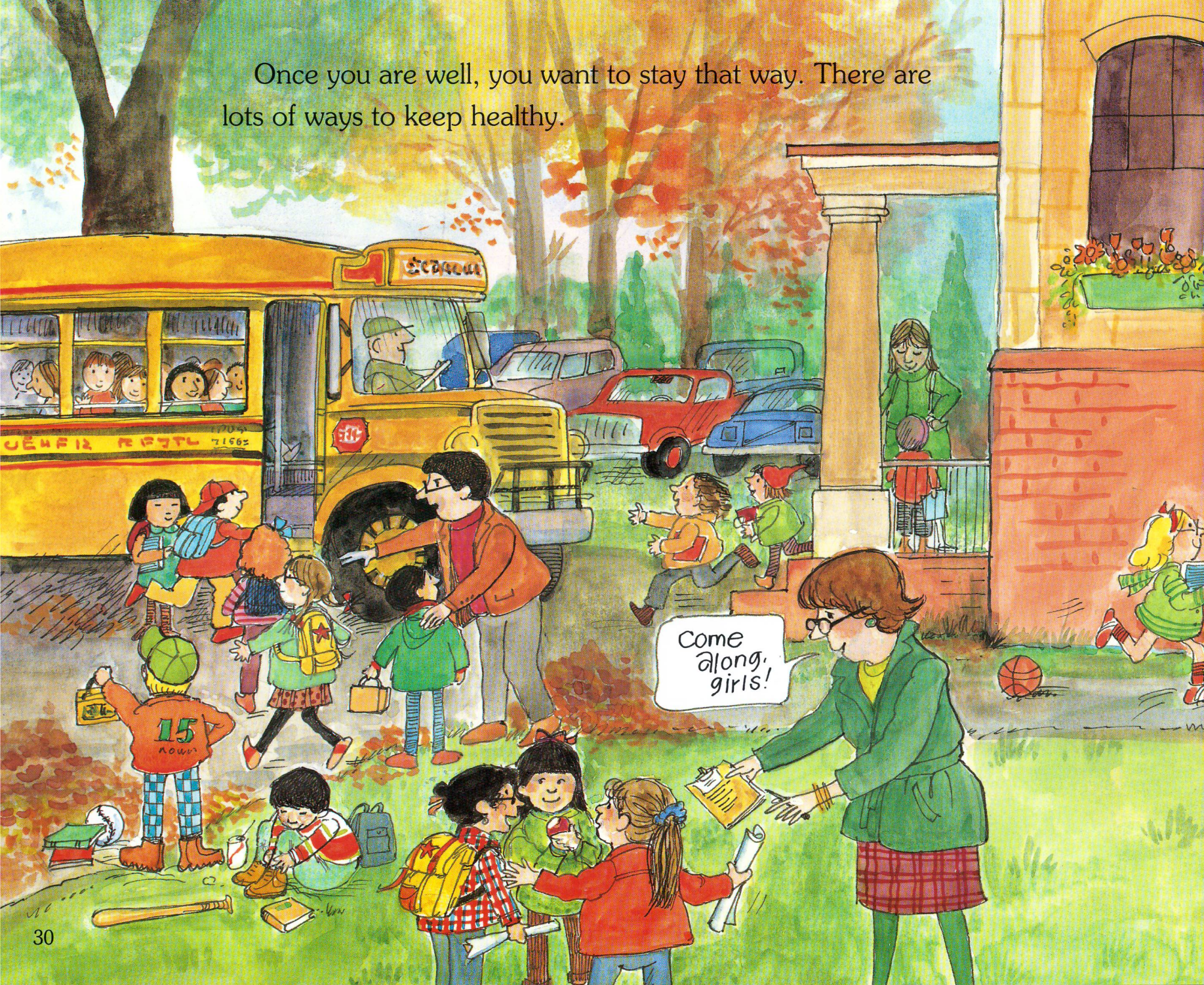


If you do get sick with a virus, the doctor may give you some medicine anyway. It won't cure you, but it might help you feel better, or protect you against bacteria that might make you even sicker.

When germs make you sick, your doctor might tell you to stay in bed. Bed rest makes it easier for your body to fight the germs. So do eating and drinking healthy foods and drinks.



Once you are well, you want to stay that way. There are lots of ways to keep healthy.





RULES FOR GOOD HEALTH

1. Stay away from anyone with a Cold or the flu.
2. Wash your hands with Soap & warm water to get rid of germs.
3. Eat good, Healthful food.
4. Brush your Teeth after Meals.
5. Get plenty of Rest.
6. Do some Exercise every Day
7. Visit your Doctor & Dentist regularly for Checkups.
8. Be Sure to get the Shots you Need.

Makes
sense
to me.



Germ's do make you sick—sometimes. But you can help yourself be as fit as a fiddle all the rest of the time!

Melvin Berger is the author of more than 100 books for young readers and has been elected to membership in the New York Academy of Sciences. He has written several other Let's-Read-and-Find-Out Science books, including LOOK OUT FOR TURTLES!, illustrated by Megan Lloyd, and OIL SPILL!, illustrated by Paul Mirocha. Mr. Berger lives in East Hampton, New York, with his wife.

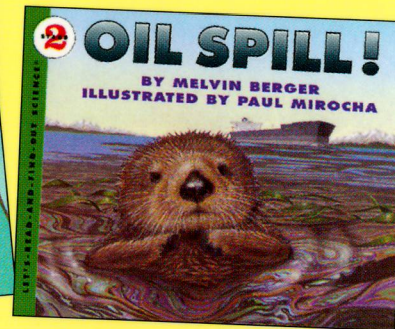
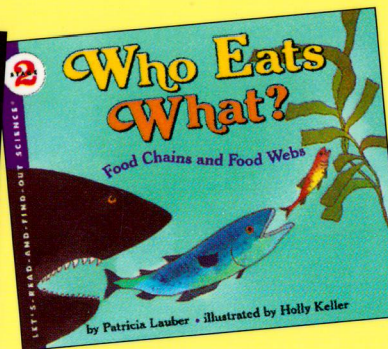
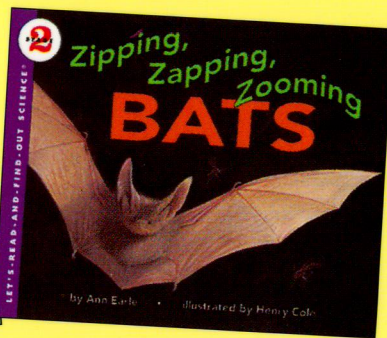
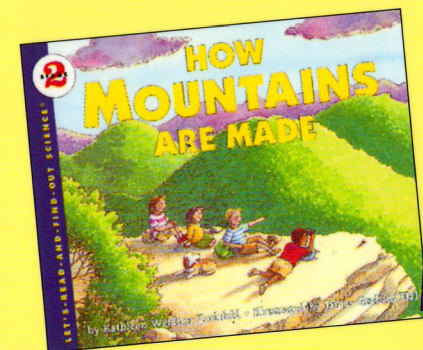
Marylin Hafner studied at the Pratt Institute and the School of Visual Arts in New York. She is the illustrator of dozens of books for children, including AN EGG AND SEVEN SOCKS by Judith Mathews and SNAP, BUTTON, ZIP: *Inventions to Keep Your Clothes On*, by Vicki Cobb. Ms. Hafner lives in Cambridge, Massachusetts.

How are you feeling?

Most of the time you feel fine, but sometimes you get sick. Sometimes a germ catches up with you.

Germes are all around you, but they are too small for you to see. Many germs are harmless, but two kinds, viruses and bacteria, can make you sick. Read and find out about germs, how they can make you sick, and how your body works to fight them off and keep you healthy.

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